## **Editorial**

## Asbestos, mesothelioma and the legacy of shipbuilding in Belfast

In 1935, just 23 years after the Titanic sank (figure 1), Campbell and Young reported a cluster of three cases of 'mixed cell sarcomas' of the pleura in the Ulster Medical Journal. There was no occupational, social or family history listed, but all three cases were re-analysed in 1996 with modern immunohistochemical techniques and shown conclusively to be mesotheliomas of the lung<sup>2</sup>. Two of the clinical photos (figure 2) are reproduced from the original article, and must be amongst the earliest pathological reported cases of mesothelioma. At that time, industrial or occupational exposure was not recognised3, but as the proportional mortality rate for asbestosis of former shipyard workers is sixteen times that of the average of other occupations, the legacy of Belfast's position as a world famous high output shipyard has ensured that far more people will die of asbestos induced diseases than the total number of individuals who died in shipwrecks such as the Titanic, in the last century or from occupational injuries sustained in manufacturing ships.



Fig 1. Passengers strolling on the boat deck of the Titanic.

In this issue of the journal, Professor John Hedley-Whyte reprises the contribution of shipbuilding in World War II as a significant aetiology of the malignancies caused by asbestos and adds how US incendiary bombs containing asbestos possibly allowed air-raids to disseminate the risk even further<sup>4</sup>. With great irony, Belfast, of course was heavily bombed by the German Luftwaffe in 1941 mainly because of its strategic shipbuilding capacity, potentially increasing asbestos exposure to the local population through both destruction of buildings containing asbestos, and mass fires from the bombs.

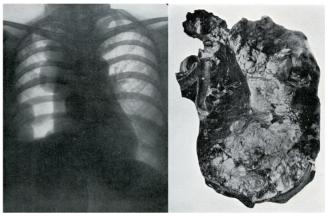


Fig 2. Left: 'Radiogram... showing large nodular growths in pleura'; Right: 'coronal section ...of mixed-cell sarcoma of the pleura'. [From the original figures 2 and 3 of reference 1].

We now know that mesothelioma can occur in the peritoneum and in other sites<sup>5</sup> and there may be an associated genetic susceptibility to carriers of certain genes including neurofibromatosis type 2<sup>6</sup>.

The one silver lining in the fire clouds of the Belfast blitz, as Hedley-Whyte comments, was that "parsimony of the UK Treasury was rendered moot and the Allied response overwhelming" thus triggering a series of events that eventually ended the war perhaps sooner than would have been otherwise.

## **REFERENCES:**

- Campbell SBB, Young JS. A primary tumour (mixed cell sarcoma) of the pleura. Ulster Med J 1935;4(1):36-8.
- Logan JS, Bharucha H, Sloan JM. Mesotheliomas all: long before their time. *Ulster Med J* 1996;65(1):1-2.
- Elmes PC. Investigation into the hazardous use of asbestos. Northern Ireland 1960-76. Ulster Med J 1977;42(2):71-80.
- Hedley-Whyte J, Milamed DR. Asbestos and ship-building: fatal consequences. *Ulster Med J* 2008;77(3):191-200.
- Kealey WDC, Dace S, Campbell WJ, Moorehead RJ. Peritoneal mesothelioma. *Ulster Med J* 1993;63(2):163-5
- 6. Bruckner Holt C, Farmer AD, Syn W, Townson G. Mesothelioma "not just in the chest" *Ulster Med J* 2008;**77(2)**:133-134.

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